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3 IMPROVED FUZZY LOGIC BASED PROCESSING SYSTEM

4 AND METHOD WITH UNCERTAIN INPUT

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6 ABSTRACT OF THE DISCLOSURE

7 A fuzzy inference system and method are disclosed that may
8 be used not only with known or definite data input but also with
9 uncertain data input. The uncertain data input may be
10 represented by a set of values wherein the possibility of any
11 particular or specific value within the set being the true or
12 accurate value is uncertain. A set of rules are provided
13 within a rule decomposer that are used to produce a plurality of
14 mappings such as a plurality of one dimensional solutions. A
15 union operator is utilized for determining a conjunction of the
16 plurality of mappings such as the plurality of one dimensional
17 solutions. The system output may then be used for control
18 purposes such as, for example only, a combat control system to
19 provide a tactical picture, decision assist, presets for a
20 guidance system, or the like.